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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,124	01/03/2005	Kazuo Higuchi	040894-7160	9680

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MORGAN LEWIS & BOCKIUS LLP  
1111 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 20004

EXAMINER
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CHUKWURAH, NATHANIEL C

ART UNIT	PAPER NUMBER
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3721

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/520,124	<b>Applicant(s)</b> HIGUCHI, KAZUO	
	<b>Examiner</b> Nathaniel C. Chukwurah	<b>Art Unit</b> 3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 October 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,9,10 and 12-18 is/are rejected.
- 7) ☒ Claim(s) 2,5,8 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/4/2006 has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-4, 6-7, 9-10 and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurosawa (US 4,623,082) in view of Sung (US 5,700,003).

With regard to claim 1, Kurosawa discloses a staple amount detecting apparatus (PT2) in an electric stapler (1), comprising a staple cartridge (2) provided attachably and detachably to and from a magazine portion (8) of a stapler main body (3) for containing sheet-like staples (25) each constituted by connecting a number of staples in a straight form in a sheet-like shape in a stacked state, wherein the staples are guided out to outside of an opening portion of a lower end portion of a front wall of the cartridge (2) main body successively from a lower end portion of

the sheet-like staples (25), comprising: an engaging plate (26) arranged at an upper portion of the cartridge (2) main body and engaged with the sheet-like staple (25) at a topmost portion.

While the reference of Kurosawa does not disclose a position detecting mechanism for detecting a position of the engaging plate per se, the reference of Sung teaches a position detecting mechanism as shown in Figure 4 for detecting a position of the engaging plate (44) which detects the remaining amount of paper sheets.

Therefore, at the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the detecting apparatus of Kurosawa to include detecting the position of the engaging plate as taught by Sung in order to provide the benefit as described in column 7, lines 47-60.

With regard to claim 3 and to extent understood, the position detecting mechanism (PT2 photosensor) of Kurosawa comprises a portion of transmitting and a portion of reflecting light (col. 10, lines 11-12), wherein the engaging plate is capable of being provided with an optical sensor.

The staple apparatus of discloses all claimed subject matter but lacks specific teaching of cutting off light irradiated to the portion of transmitting and the portion of reflecting light, and the remaining amount of the sheet-like staple is detected based on detection of the position.

Examiner Takes Official Notice that photosensor irradiating light and cutting off is well known in the art and would have been obvious to one skilled in the art for accurate detection of the staples.

With regard to claim 4, the reference of Kurosawa discloses a staple amount detecting apparatus (PT2) in an electric stapler (1), used in an electric stapler comprising a staple cartridge

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(2) provided attachably and detachably to and from a magazine portion (8) of a stapler main body (3) for containing a number of staples (25) each in a straight form, wherein the staples are successively guided out to outside of an opening portion of the cartridge (2) main body from the staple at a front end portion, comprising: an engaging plate (26) arranged at an upper portion of the cartridge (2) main body.

While the reference of Kurosawa does not disclose a position detecting mechanism for detecting a position of the engaging plate per se, the reference of Sung teaches a position detecting mechanism as shown in Figure 4 for detecting a position of the engaging plate (44) which detects the remaining amount of paper sheets.

Therefore, at the time the invention was made, it would have been obvious to one having ordinary skill in the art to modify the detecting apparatus of Kurosawa to include detecting the position of the engaging plate as taught by Sung in order to provide the benefit as described in column 7, lines 47-60.

Kurosawa discloses all claimed subject matter but lacks specific teaching staples wound in a roll-like shape. However, since the use of rolled staples are well known in the art, it would have been obvious to one skilled in the art to arrange the sheet formed staples in roll-like form for easy disposal from the cartridge to the stapling position.

With regard to claim 6 and to the extent understood, the position detecting mechanism (PT2 photosensor) of Kurosawa comprises a portion of transmitting and a portion of reflecting light (col. 10, lines 11-12), the engaging plate can be provided with an optical sensor.

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The staple apparatus of discloses all claimed subject matter but lacks specific teaching of cutting off light irradiated to the portion of transmitting and the portion of reflecting light, and the remaining amount of the sheet-like staple is detected based on detection of the position.

Examiner Takes Official Notice that photosensor irradiating light and cutting off is well known in the art and would have been obvious to one skilled in the art to provide the staple device of Kurosawa with function of irradiating light and cutting off for accurate detection of the staples.

With regard to claim 7, the modified detecting mechanism of Kurosawa is capable of providing electric signal based on the detection of the position of a projected portion of the engaging plate (26a).

With regard to claim 9 and to extent understood, the position detecting mechanism (PT2 photosensor) of Kurosawa comprises a portion of transmitting and a portion of reflecting light (col. 10, lines 11-12), wherein the engaging plate is provided with an optical sensor.

The staple apparatus of discloses all claimed subject matter but lacks specific teaching of cutting off light irradiated to the portion of transmitting and the portion of reflecting light, and the remaining amount of the sheet-like staples is detected based on the detection of the position of the engaging plate (26).

Examiner Takes Official Notice that photosensor irradiating light and cutting off is well known in the art and would have been obvious to one skilled in the art for accurate detection of the staples.

With regard to claim 10, the detecting mechanism is capable of providing electric signal based on the detection of the position of a projected portion of the engaging plate (26a).

With regard to claim 12 and to the extent understood, the position detecting mechanism (PT2 photosensor) of Kurosawa comprises a portion of transmitting and a portion of reflecting light (col. 10, lines 11-12), the engaging plate can be provided with an optical sensor.

The reference staple apparatus of Kurosawa discloses all claimed subject matter but lacks specific teaching of cutting off light irradiated to the portion of transmitting and the portion of reflecting light, and the remaining amount of the roll-like staples detected based on detection of the position of the engaging plate.

Kurosawa discloses all claimed subject matter but lacks specific teaching staples wound in a roll-like shape. However, since the use of rolled staples are well known in the art, it would have been obvious to one skilled in the art to arrange the sheet formed staples in roll-like form for easy disposal from the cartridge to the stapling position.

Examiner Takes Official Notice that photosensor irradiating light and cutting off is well known in the art and would have been obvious to one skilled in the art to provide the staple device of Kurosawa with function of irradiating light and cutting off for accurate detection of the staples.

With regard to claims 13 and 14, the reference staple apparatus of Kurosawa does expressly state about at least three position of the engaging plate, however, the detecting mechanism is capable of such function as detecting at least three position of the engaging plate (26).

With regard to claims 15 and 16, the modified detecting apparatus includes the electric signal being a the voltage which is variable based on the position of the engaging plate as described in the Sung reference column 6, lines 39-41.

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3. With regard to claims 17 and 18, the position detecting mechanism detects the position of the engaging plate by counting electrical signals as described in Sung reference column 6, lines 40-45.

***Allowable Subject Matter***

6. Claims 2, 5, 8 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The most pertinent prior art, Kurosawa discloses a staple detecting apparatus comprising: a staple cartridge, a magazine, a sheet-like staples, an engaging plate, a position detecting mechanism but does not disclose the position detecting mechanism comprising a plurality of conductors and out terminal provided at each of the conductors, wherein an engaging plate provided with an electrode and in contact with the conductors, move along the conductors in order to detect remaining staples.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1, 3-4, 6-7, 9-10 and 12-18 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Refer to attachment for notice of references cited and recommended for consideration based on their disclosure of limitations of the claimed invention.



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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathaniel C. Chukwurah whose telephone number is (571) 272-4457. The examiner can normally be reached on M-F 6:00AM-2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi Rada can be reached on (571) 272-4467. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NC

October 24, 2006.



Rinaldi I. Rada  
Supervisory Patent Examiner  
Group 3700